

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended): A laser gyro ~~comprising at least one~~ comprising:
an optical ring cavity ~~[[1]]~~ ~~consisting of~~ including at least three mirrors ~~(11, 12, 13)~~, a solid-state amplifying medium ~~[[19]]~~ and a feedback system ~~(4, 42, 43)~~, the cavity ~~[[1]]~~ and the amplifying medium ~~[[19]]~~ being such that two counterpropagating optical modes ~~[[5, 6]]~~ can propagate in opposite directions one with respect to the other inside said optical cavity, the feedback system allowing the intensity of the two counterpropagating modes to be kept almost the same, the feedback system comprising ~~at least~~, inside the cavity, an optical assembly ~~consisting of~~ including a polarizing element ~~[[71]]~~ and a device ~~[[8]]~~ exhibiting a nonreciprocal effect that acts on the polarization state of the counterpropagating modes, ~~characterized in that wherein~~ said optical assembly ~~also~~ further includes a device ~~[[7]]~~ exhibiting a reciprocal effect that also acts on the polarization state of the counterpropagating modes, the feedback system comprising control means for controlling at least one of the effects of said devices ~~[[7]]~~ or ~~[[8]]~~.

2. (currently amended): The laser gyro as claimed in claim 1, ~~characterized in that wherein~~ the polarizing element ~~[[71]]~~ is a linear polarizer.

3. (currently amended): The laser gyro as claimed in claim 1, ~~characterized in that wherein~~ the polarizing element ~~[[71]]~~ is at least one of the mirrors ~~(11, 12, 13)~~ of the cavity.

4. (currently amended): The laser gyro as claimed in claim 1, ~~characterized in that wherein~~ the polarizing element ~~[[71]]~~ is ~~at least~~ either an inclined glass plate, the angle of inclination on the optical modes ~~[[5, 6]]~~ then being approximately equal to the Brewster angle, or one of the faces of an element of the cavity ~~[[7, 8 or 19]]~~ cut at the Brewster angle of incidence.

5. (currently amended): The laser gyro as claimed in ~~one of~~ claim[[s]] 1 ~~to~~ 4, ~~characterized in that~~ wherein, when the device [[(7)]] exhibiting a reciprocal effect is a second linear polarizer, the polarization direction of which is not parallel to that of the first polarizer, the feedback system consists of means for adjusting the nonreciprocal effect of the device [[(8)]] exhibiting a nonreciprocal effect.

6. (currently amended): The laser gyro as claimed in ~~one of~~ claim[[s]] 1 ~~to~~ 4, ~~characterized in that~~ wherein, when the device [[(7)]] exhibiting a reciprocal effect is a birefringent optical plate, the feedback system comprises means for adjusting the nonreciprocal effect of the device [[(8)]] exhibiting a nonreciprocal effect.

7. (currently amended): The laser gyro as claimed in ~~one of~~ claim[[s]] 1 ~~to~~ 4, ~~characterized in that~~ wherein, when the optical cavity is a nonplanar cavity, the feedback system consists of means for adjusting the nonreciprocal effect of the device [[(8)]] exhibiting a nonreciprocal effect.

8. (currently amended): The laser gyro as claimed in ~~one of~~ claim[[s]] 1 ~~to~~ 4, ~~characterized in that~~ wherein the device [[(7)]] exhibiting a reciprocal effect is an optical plate exhibiting electrically controlled birefringence.

9. (currently amended): The laser gyro as claimed in ~~one of~~ claim[[s]] 1 ~~to~~ 4, ~~characterized in that~~ wherein, when the device [[(8)]] exhibiting a nonreciprocal effect consists of a material exhibiting the Faraday effect and polarized by a permanent magnet, the feedback system consists of means for adjusting the reciprocal effect of the device [[(7)]] exhibiting a reciprocal effect.

10. (currently amended): The laser gyro as claimed in ~~one of~~ claim[[s]] 1 ~~to 4~~, ~~characterized in that~~ wherein the device [[(8)]] exhibiting a nonreciprocal effect consists of a material exhibiting the Faraday effect and polarized by an induction coil [[(73)]] controlled by an adjustable electrical current.

11. (currently amended): The laser gyro as claimed in claim[[s]] 9 ~~or 10~~, ~~characterized in that~~ wherein the amplifying medium and the material exhibiting the Faraday effect are produced in the same material.

12. (currently amended): The laser gyro as claimed in ~~one of the preceding~~ claim[[s]] 1, ~~characterized in that~~ wherein the cavity [[(1)]] is monolithic, the counter propagating optical modes [[(5, 6)]] propagating, inside the cavity, only in a solid material.

13. (currently amended): The laser gyro as claimed in ~~one of the preceding~~ claim[[s]] 1, ~~characterized in that~~ wherein the amplifying medium [[(19)]] is based on neodymium-doped YAG (yttrium - aluminum - garnet).

14. (currently amended): The laser gyro as claimed in ~~one of the preceding~~ claim[[s]] 1, ~~characterized in that~~ wherein the cavity [[(1)]] is optically pumped by at least one diode laser [[(2)]].

15. (currently amended): The laser gyro as claimed in ~~one of~~ claim[[s]] 1 ~~to 14~~, ~~characterized in that~~ wherein the cavity comprises at least one optical fiber [[(100)]] in the form of a ring, which includes optical couplers [[(101)]] for the entry and exit of the counterpropagating beams and of at least one optical pumping beam [[(102)]].